

## LABORATORY REPORT

Prepared For: Burns & McDonnell  
9400 Ward Parkway  
Kansas City, MO 64114  
Attention: Diana Marquez

Project: QAS-Marsh Ave 62589

Sampled: 09/15/12  
Received: 09/18/12  
Issued: 09/24/12 14:20

NELAP #01109CA / AZ100001 California ELAP#2446 Arizona DHS#AZ0728 Nevada #AZ01030 ORELAP #AZ100001

*The results listed within this Laboratory Report pertain only to the samples tested in the laboratory. The analyses contained in this report were performed in accordance with the applicable certifications as noted. All soil samples are reported on a wet weight basis unless otherwise noted in the report. This Laboratory Report is confidential and is intended for the sole use of TestAmerica and its client. This report shall not be reproduced, except in full, without written permission from TestAmerica. The Chain of Custody, 1 page, is included and is an integral part of this report.*

*This entire report was reviewed and approved for release.*

## CASE NARRATIVE

### LABORATORY ID

PVI1187-01  
PVI1187-02  
PVI1187-03

### CLIENT ID

DP127W03/37-41  
DP127W04/49-53  
DP127W06/67-71

### MATRIX

Water  
Water  
Water

SAMPLE RECEIPT: Samples were received intact, at 2°C, on ice and with chain of custody documentation.

HOLDING TIMES: All samples were analyzed within prescribed holding times and/or in accordance with the TestAmerica Sample Acceptance Policy unless otherwise noted in the report.

PRESERVATION: Samples requiring preservation were verified prior to sample analysis.

QA/QC CRITERIA: All analyses met method criteria, except as noted in the report with data qualifiers.  
N1 - 8270 -1,4-Dioxane - Batch 12I0715-MSD1 - The MS/MSD RPD exceeded acceptance criteria. See LCS/LCSD RPD.

COMMENTS: No significant observations were made.

SUBCONTRACTED: No analyses were subcontracted to an outside laboratory.

Reviewed By:



TestAmerica Phoenix

Linda Eshelman  
Project Manager

Burns & McDonnell  
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## 1,4-DIOXANE BY GC/MS (EPA 3520C/8270C MOD)

Analyte	Method	Batch	Reporting Limit	Sample Result	Dilution Factor	Date Extracted	Date Analyzed	Data Qualifiers
<b>Sample ID: PVI1187-01 (DP127W03/37-41 - Water)</b>								
Reporting Units: ug/l								
<b>1,4-Dioxane</b>	EPA 8270C	12I0715	1.5	<b>12</b>	1.49	9/19/2012	9/21/2012	
Surrogate: 1,4-Dioxane-d8 (14-125%)				33 %				
Surrogate: Nitrobenzene-d5 (27-143%)				73 %				
<b>Sample ID: PVI1187-02 (DP127W04/49-53 - Water)</b>								
Reporting Units: ug/l								
<b>1,4-Dioxane</b>	EPA 8270C	12I0715	1.0	<b>23</b>	1	9/19/2012	9/21/2012	
Surrogate: 1,4-Dioxane-d8 (14-125%)				41 %				
Surrogate: Nitrobenzene-d5 (27-143%)				74 %				
<b>Sample ID: PVI1187-03 (DP127W06/67-71 - Water)</b>								
Reporting Units: ug/l								
<b>1,4-Dioxane</b>	EPA 8270C	12I0715	1.0	<b>2.8</b>	1	9/19/2012	9/21/2012	
Surrogate: 1,4-Dioxane-d8 (14-125%)				35 %				
Surrogate: Nitrobenzene-d5 (27-143%)				78 %				

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## METHOD BLANK/QC DATA

### 1,4-DIOXANE BY GC/MS (EPA 3520C/8270C MOD)

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Data Qualifiers
<b>Batch: 1210715 Extracted: 09/19/12</b>										
<b>Blank Analyzed: 09/20/2012 (1210715-BLK1)</b>										
1,4-Dioxane	ND	1.0	ug/l							
Surrogate: 1,4-Dioxane-d8	8.24		ug/l	20.0		41	14-125			
Surrogate: Nitrobenzene-d5	15.8		ug/l	20.0		79	27-143			
<b>LCS Analyzed: 09/20/2012 (1210715-BS1)</b>										
1,4-Dioxane	20.9	1.0	ug/l	20.0		104	85-116			
Surrogate: 1,4-Dioxane-d8	6.36		ug/l	20.0		32	23-132			
Surrogate: Nitrobenzene-d5	13.2		ug/l	20.0		66	28-150			
<b>LCS Dup Analyzed: 09/20/2012 (1210715-BSD1)</b>										
1,4-Dioxane	20.9	1.0	ug/l	20.0		104	85-116	0.05	20	
Surrogate: 1,4-Dioxane-d8	8.06		ug/l	20.0		40	23-132			
Surrogate: Nitrobenzene-d5	15.9		ug/l	20.0		80	28-150			
<b>Matrix Spike Analyzed: 09/20/2012 (1210715-MS1)</b>										
					<b>Source: PVI0933-09</b>					
1,4-Dioxane	101	1.1	ug/l	22.7	89.9	51	65-138			M2
Surrogate: 1,4-Dioxane-d8	8.92		ug/l	22.7		39	14-125			
Surrogate: Nitrobenzene-d5	19.8		ug/l	22.7		87	27-143			
<b>Matrix Spike Dup Analyzed: 09/20/2012 (1210715-MSD1)</b>										
					<b>Source: PVI0933-09</b>					
1,4-Dioxane	75.8	1.0	ug/l	20.0	89.9	-71	65-138	29	20	M2, N1
Surrogate: 1,4-Dioxane-d8	6.43		ug/l	20.0		32	14-125			
Surrogate: Nitrobenzene-d5	18.4		ug/l	20.0		92	27-143			

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Project Manager

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## DATA QUALIFIERS AND DEFINITIONS

<b>M2</b>	Matrix spike recovery was low; the associated blank spike recovery was acceptable.
<b>N1</b>	See case narrative.
<b>ND</b>	Analyte NOT DETECTED at or above the reporting limit or MDL, if MDL is specified.
<b>RPD</b>	Relative Percent Difference

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Project Manager

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## CHAIN OF CUSTODY FORM

[ ] Phoenix - 4625 E. Cotton Center Blvd., Suite 189, Phoenix, AZ 85040 (602) 437-3340 FAX (602) 454-9303  
[ ] Tucson - 1870 W. Prince Road, Suite 59, Tucson, AZ 85705 (520) 807-3801 FAX (520) 807-3803  
[ ] Las Vegas - 6000 S Eastern Ave., Suite 5E, Las Vegas, NV 89119 (702) 429-1264

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Client Name / Address: Burns and McDonnell 9400 Ward Parkway Kansas City, Mo 64114			Project / PO Number: OAS - Marsh Ave. 62589				Analysis Required										
Project Manager: SMG - Diana Marquez TA - Linda Eschelman Sampler: Lewis Turner			Phone Number: <del>816-822-7047</del> 816-822-3453 Fax Number: 816-822-3463				1,4-Dioxane										
Sample Description	Sample Matrix	Container Type	# of Cont.	Sampling Date	Sampling Time	Preservatives											
DP 127 W03 / 37-41	WT	1L Amb	2	9/15/12	0917	Ice to 4°C		X									
DP 127 W04 / 49-53	WT	1L Amb	2	9/15/12	1005	Ice to 4°C		X									
DP 127 W06 / 67-71	WT	1L Amb	2	9/15/12	1135	Ice to 4°C		X									
Relinquished By: Lewis Turner <i>[Signature]</i>			Date / Time: 9/17/12 1500		Received By:			Date / Time:			Turnaround Time: (Check) same day _____ 72 hours _____ 24 hours _____ 5 days <u>X</u> 48 hours _____ normal _____						
Relinquished By:			Date / Time:		Received By:			Date / Time:			Sample Integrity: (Check) intact <u>X</u> on ice <u>X</u>						
Relinquished By: Fed Ex			Date / Time: 9/18/12 1030		Received in Lab By: Sharon Malone			Date / Time: 9/18/12 1030									

**Note:** By relinquishing samples to TestAmerica, client agrees to pay for the services requested on this chain of custody form and any additional analyses performed on this project. Payment for services is due within 30 days from the date of invoice. Sample(s) will be disposed of after 30 days.

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